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## FACT SHEET

# Tijuana Master Plan for Water and Wastewater Infrastructure

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### Why does Tijuana need a Master Plan?

**Rapid and Widespread Growth** – The Tijuana/Playas de Rosarito area, located on the U.S.-Mexico border just south of San Diego, has experienced tremendous growth in recent years, with a local population of more than 1.2 million.

**Lack of Coverage** – A comprehensive planning effort is required to plan for future growth and resolve current service problems, including lack of water and sewage service for some areas, and discharge of raw sewage into the Tijuana River.

### What is the Master Plan?

**Long-Term Plan** – The *Master Plan for Potable Water and Wastewater Services for the Municipalities of Tijuana and Playas de Rosarito, Baja California, Mexico* (Master Plan) is a long-term plan that investigates alternatives for meeting water and wastewater needs for the Tijuana region. The Master Plan will address current needs and problems as well as future demands for water and wastewater service. It will develop short, mid, and long-range infrastructure projects (five, ten, and twenty-year time frames) that will allow for planned and sustainable development.

**Water and Sewage** – The Master Plan will consider:

1. Potable water resources, including water reuse alternatives
2. Potable water infrastructure
3. Wastewater collection and conveyance
4. Wastewater treatment infrastructure, including pretreatment of industrial wastewater

### What agencies are involved?

**CESPT** – The Comisión Estatal de Servicios Públicos de Tijuana, the local utility responsible for providing water and wastewater service, is the managing agency in the development of the Master Plan.

**Mexican Agencies** – Other lead agencies in Mexico include the Comisión Nacional de Agua (CNA), Mexico's National Water Commission; and the Comisión Estatal de Agua (CEA), the State Water Commission for Baja California.

**EPA** – The U.S. Environmental Protection Agency is providing funding for the project and will provide general project oversight. Congress directed EPA to prepare a comprehensive Tijuana water/wastewater plan to study the infrastructure needs of the region.

**NADBank** – The North American Development Bank is administering the grant funds provided by EPA and will separately fund an institutional capacity-building study.

### How will the Master Plan be developed?

**Scope of Work** – CESPT, EPA, and NADBank developed Terms of Reference (TOR, equivalent to a scope of work) for the development of the Master Plan.

**Competitive Bid** – The Master Plan will be developed by Camp, Dresser & McKee, Inc. (CDM), an international consulting firm selected through a competitive bidding process. Selection of the consultant took place in December 2001.

**Schedule** – Work on the Master Plan began in January 2002. The Plan is scheduled for completion in December 2002.

**Technical Review** – The technical review committee is comprised of CESPT, CNA, CEA, EPA, and NADBank. It will guide the project and coordinate, as appropriate, with other Mexican and binational agencies with pertinent expertise in regulations, standards, and international agreements that could affect the Master Plan alternatives.

**Public Input** – Four public meetings (two in Mexico and two in the United States) will be held during the development of the Master Plan to explain the planning process solicit public input. The consultant is also meeting with agencies and organizations that possess information relevant to the project. Meetings with the public and interested parties also took place in 2001 to provide information and solicit input on the TOR.

**BECC Certification** – The Master Plan alternatives will be developed with Border Environment Cooperation Commission (BECC) certification in mind, including compliance with sustainable development criteria.

**Environmental Impact** – Environmental impacts of the alternatives proposed in the Master Plan will be analyzed in accordance with the U.S. National Environmental Policy Act of 1969 (NEPA) and Mexican laws and regulations.

### **How will the Master Plan be funded?**

**EPA** – EPA is providing \$2 million in grant funding for the project.

**NADBank** – NADBank expects to contribute \$500,000 to sponsor a separate study on improvements to CESPT's institutional framework (subject to approval by the Board of Directors).

**CESPT** – CESPT is providing in-kind support for the project.

NADBank is administering all of the funds for the project, though the contract for services is between CESPT and CDM.

*For more information on the Tijuana Master Plan project, visit the EPA Region 9 U.S.-Mexico Border Web site at [www.epa.gov/region09/border/](http://www.epa.gov/region09/border/) or contact Evelyn Wachtel at 415-972-3410 or [Wachtel.Evelyn@epa.gov](mailto:Wachtel.Evelyn@epa.gov).*

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# Water & Wastewater Infrastructure Improvements Tijuana, Mexico: 2001-2005

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- Rehabilitation
- Expansion and Reclamation
- Master Plan Development



United States  
Environmental Protection  
Agency

**NOTES:** Some terms used in this report include:

Japanese Overseas Economic Cooperation Fund:: This fund was established in the early 1960s and provides low-cost loans to developing countries to support Japanese overseas investments

CESPT: Comisión Estatal de Servicios Públicos, Tijuana; state public works agency in Tijuana, responsible for water and wastewater services

BECC: Border Environment Cooperation Commission, created as part of environmental side agreements to NAFTA. Certifies infrastructure development projects along US-Mexico border, w/emphasis on water, wastewater and solid waste disposal. Certification process requires public participation, transparency and community right to know standards, and sustainable development goals.

EPA/BEIF: Border Environmental Infrastructure Fund: allocated from USEPA

NADBANK: North American Development Bank, created as part of environmental side agreements to NAFTA; provides loans to infrastructure development projects that have been certified by the BECC

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**Collection/Treatment expansion: 2001-2004**

Total cost: MX\$871,331,505 (approx. US\$96,814,600)

Funding source: Japanese Overseas Economic Cooperation Fund

**Overview****Wastewater Collection System Expansion Project; Reclamation Plant construction**

- 1) The project consists of adding and/or widening approximately 1,219,528 meters of wastewater collection lines (approx. 755 miles).
- 2) The proposed project is composed of 68 specific projects for the installation of sewer laterals, collectors and sub-collectors, and the construction of pump stations and 4 small, decentralized treatment plants.
- 3) Total capacity of these plants is 665 liters/second, or approximately 15.2 MGD. They are located near current and planned industrial parks and will reclaim water for industrial uses and landscaping.

Related to this is the current project to expand capacity at the treatment plant at San Antonio de los Buenos from 17 MGD to 25 MGD, and improve its treatment quality.

**Objectives**

The objective of this project is to improve environmental and human health conditions in the cities of Tijuana, San Diego and Imperial Beach, reduce reliance on imported water supplies, and provide irrigation water for landscaping projects and reclaimed water for industrial use.

**Timelines/Contact**

Loans were approved in 2000. Work began in 2001 and will continue through 2004.

For more information contact Sara Leal at CESPT: 011-526-664-622-4077

Phase  
**2**

**2002-2005**

## **Sewage Collection System rehabilitation:**

Total cost: MX\$400,929,232 (approx. US\$44,547,000)

Funding sources: CESPT, BECC/BEIF, NADBank

### **Overview**

#### **Wastewater Collection System Rehabilitation and Improvements Project**

- 1) The project consists of the rehabilitation of approximately 131,000 meters of wastewater collection lines, which represents approximately 7.5% of the total length of the city's system. (Total = approx. 1083 miles.) Many are over 30 years old.
- 2) The proposed project is composed of 51 specific projects for the rehabilitation of sewer laterals, collectors and sub-collectors.
- 3) All the proposed projects are located in previously developed areas with water, wastewater collection, and wastewater treatment service. For the most part, the lines will be replaced with the same diameter pipe, although in a few cases the diameters will be slightly increased to account for past population growth.
- 4) The preferred rehabilitation method is slip lining, which will minimize traffic disruption by minimizing the amount of excavation needed. Additionally, dust generation, and nuisance to residents and commercial establishments will be reduced. Finally, the proposed method will be more cost-effective than conventional excavation methods.

#### **Objective**

The objective of this project is to improve environmental and human health conditions in the city of Tijuana, as well as in areas in the cities of San Diego and Imperial Beach in the United States near the border, the Tijuana Estuary and the Pacific Ocean.

The rehabilitation of sewers will reduce storm and ground water infiltration into the sewer system, which will in turn reduce wastewater inflow to the treatment plants, thus increasing the effective treatment capacity. Furthermore, the potential for the pollution of aquifers and surface waters will be decreased.

#### **Timelines/Contact**

Approval of BEIF and NADBank funds was completed at the Mexico City BECC meeting on October 16; work will begin later this year and be completed in 2005. **For more information contact Sara Leal at CESPT: 011-526-664-622-4077**

Phase

**2001-2003**

TIJUANA UPDATES  
IMPROVEMENTS

## Water/Wastewater Master Plan

Funding sources: CESPT, EPA/BEIF, NADBank

### Overview

#### Long-range planning for improvements to water delivery and wastewater systems

- 1) The project consists of the development of a strategic plan for ongoing improvements to the city of Tijuana and Playas de Rosarito's water and wastewater systems.
- 2) The proposed project will analyze current system requirements and project future growth and demands at 5, 10 and 20-year increments.

CESPT will receive approximately \$1.75 million from the EPA's Water Infrastructure Fund, along with funds from NADBank specifically for institutional development in the future to assist with this project, and technical assistance from the US Environmental Protection Agency. CESPT will provide in-kind assistance, as well as project management.

### Objectives

The project is a planning effort to develop a Master Plan that identifies the alternatives to meet the present and future requirements for the provision of potable water and wastewater infrastructure for the municipalities of Tijuana and Playas de Rosarito. This Master Plan will assess the existing situation; identify areas of strength, weakness, areas of opportunity; and will present a vision to meet the future demand for potable water and wastewater service. The Master Plan will identify short-range projects to correct existing deficiencies, and medium and long-range projects that will allow planned and sustainable development. The scenarios projected include 5, 10 and 20-years.

The components of the Master Plan are: 1) water resources; 2) potable water infrastructure; 3) wastewater infrastructure; 4) treatment and disposition of wastewater; 5) environmental analysis; 6) capital improvement program; and 7) Master Plan follow-up and control.

### Timelines/Contacts

Work began in 2001 and is estimated to continue until 2003. The objective of this project is to develop long-range plans, taking into account the Tijuana region's nearly 6% annual growth rate, and to establish guidelines for improving the city's water delivery services and wastewater treatment standards and capacity. For more information contact Wendy Shafir, USEPA Region 9, at 415-972-3422